

**REMARKS/ARGUMENTS**

The Office Action mailed February 7, 2005, has been received and reviewed. Claims 1 through 9 are currently pending in the application. Claim 5 is withdrawn from consideration as being drawn to a non-elected invention. Claims 1 through 4 and 6 through 9 stand rejected. Applicants have amended claims 1 and 3, entered new claims 10 through 17 and respectfully request reconsideration of the application as amended herein.

**Information Disclosure Statement(s)**

Applicants note the filing of an Information Disclosure Statement herein on December 5, 2003 and note that no copy of the PTO-1449 was returned with the outstanding Office Action. Applicant respectfully requests that the information cited on the PTO-1449 (which is the same as that of record to that date in the parent application hereto) be made of record herein.

**Objection to Title**

The title was objected to as not being descriptive of the invention. The title as been amended, as set forth above, in accordance with the Examiner's suggestion.

**35 U.S.C. § 102 Anticipation Rejections**

**Anticipation Rejection Based on U.S. Patent No. 5,656,550 to Tsuji et al.**

Claims 1 through 4 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tsuji et al. (U.S. Patent No. 5,656,550). Applicants respectfully traverse this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claim 1 of the presently claimed invention is directed to a lead frame having a plurality of discretely defined leads. At least one of the discretely defined leads includes: a first bonding region, a second bonding region, and a severance region located between the first bonding region

and the second bonding region, the severance region being configured to facilitate separation of the first bonding region from the second bonding region.

The Examiner cites Tsuji as teaching a plurality of leads (103) and including at least one lead having a "first bonding region 94, a second bonding region 97" and "a severance region 99 located between the first bonding region 94 [and second bonding region 97], the severance region 99 being configured to facilitate separation of the first bonding region 94 from the second bonding region." (Office Action page 3). Applicants respectfully submit that Tsuji fails to describe all of the limitations of claim 1 of the presently claimed invention.

Referring more specifically to the embodiments cited by the Examiner, Tsuji describes a method of producing the semiconductor device which includes forming a frame portion (97) and terminal portions (94) from a metal plate (96) by disposing resist layers on opposing surfaces of the metal plate and then subjecting the metal plate to a half-etching process which defines a groove (99) between the frame portion and the terminal portions. After stripping the resist from the metal plate, the upper portions of the terminal portions are plated with gold, silver or palladium. (See, e.g., col. 21, lines 38-63).

Bond wires "93 are provided between [semiconductor chip bond] pads (not shown) and the bonding pads plated on the upper end of the pole terminal portions 94." (Col. 22, lines 28-30). "By the wires 93, the semiconductor chip 91 is electrically connected to the pole terminal portion 94." (Col. 22, lines 30-32).

The assembled structure is then placed in a mold cavity and resin is introduced into the cavity and disposed over the semiconductor chip (91), the wires (93) and the terminal portions (94). Subsequently, "the frame portion 97 is separated and removed from the pole terminal portions 94 at the position where the groove 99 is formed."

Thus, Applicants submit the Tsuji fails to teach at least one *discretely defined lead* that includes a first bonding region, a second bonding region, and a severance region located between the first bonding region and the second bonding region, the severance region being configured to facilitate separation of the first bonding region from the second bonding region.

While the Examiner points to the component associated with reference numeral 97 as being a "second bonding region," Tsuji clearly fails to describe such subject matter. Rather, it is clear that the component identified by reference numeral 97 is a frame which is removed after

bond wires connect the semiconductor chip with individual terminal portions (94) and after resin is placed over the wires and the terminal portions. Furthermore, even if the Examiner were to consider the frame (97) as being a second bonding region, the frame is common to all of the terminal portions as is clearly shown in FIG. 28A. Thus, the frame portion cannot be considered the second bonding region of a "discretely defined lead" as set forth in claim 1 of the presently claimed invention.

Applicants, therefore, respectfully submit that claim 1 is clearly allowable over Tsuji. Applicants further submit that claims 2 through 4 are also allowable as being dependent from an allowable base claim as well for the additional patentable subject matter introduced thereby.

With respect to claim 3, Applicants submit that Tsuji fails to teach a plurality of discretely defined leads which each include a first bonding region, a second bonding region, and a severance region configured to facilitate separation of the first and second bonding regions.

Applicants respectfully request reconsideration and allowance of claims 1 through 4.

Anticipation Rejection Based on U.S. Patent No. 6,399,415 to Bayan et al.

Claims 6 through 9 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Bayan et al. (U.S. Patent No. 6,399,415). Applicants respectfully traverse this rejection, as hereinafter set forth.

Independent claim 6 is directed to a lead frame strip that comprises: a plurality of longitudinally arranged lead frames, each lead frame including an outer frame portion bearing a plurality of inwardly extending, cantilevered leads, each lead of the plurality having thereon at least two longitudinally spaced locations separated by a severance region comprising a notch extending laterally across each lead.

The Examiner cites Bayan as teaching a plurality of longitudinally arranged lead frames (in FIG. 1A), with "each lead frame including an outer frame portion bearing a plurality of inwardly extending, cantilevers leads each lead of the plurality having thereon at least two longitudinally spaced locations separated by a severance region comprising a notch 240 extending laterally across each lead 209." (Office Action, page 4). Applicants respectfully disagree.

Bayan describes a lead frame (204) having a plurality of leads or contacts (209) and a die attach pad 207. "Tie bars 240 are also defined to support the desired surface features." (Col. 5, lines 17-18). While the Examiner cites the component associated with reference numeral 240 as corresponding with the "notch" set forth in claim 6, Applicants note that the component identified by reference numeral 240 is a tie bar which defines the outer periphery of each lead frame and structurally supports the leads (209) thereof. Thus, among other things, tie bar (240) defines a boundary between individual lead frames (202) as is clearly shown in FIGS. 7 and 8.

Thus, the tie bar (240), which the Examiner cites as being a notch, does not separate at least two longitudinally spaced locations of any of the leads associated with a given lead frame as set forth in claim 6 of the presently claimed invention. Rather, Bayan's tie bar, even if it is considered to be a notch, separates the leads of one lead frame (202) from the leads of another, adjacent lead frame.

Applicants, therefore, respectfully submit that claim 6 is clearly allowable over Bayan. Applicants further submit that claims 7 through 9 are also allowable at least by virtue of their dependency from an allowable base claim.

Applicants respectfully request reconsideration and allowance of claims 6 through 9.

#### **ENTRY OF AMENDMENTS**

The amendments to claims 1 and 3 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

#### **ENTRY OF NEW CLAIMS**

New claims 10 through 17 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

Applicants submit that the new claims are allowable over the art relied upon by the Examiner at least by virtue of their dependency from an allowable base claim (each of claims 10 through 14 ultimately depending from independent claim 1 and each of claims 15 through 17 ultimately depending from independent claim 6).

**CONCLUSION**

Claims 1 through 4 and 6 through 17 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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